

REMARKS

Reconsideration and allowance are respectfully requested.

Claims 1 and 5 are amended to further clarify that two positioning protocols are dynamically selected—one for communication with the mobile's home network and one with communication with the visiting network for purposes of obtaining the position of the mobile station. Example support for the amendments can be found in Figure 2 and the specification on page 7, line 24 to page 8, line 12.

Claims 1-10 remain rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Publication No. 2001/0003093 to Lundin in view of newly-applied U.S. Patent 6,411,632 to Lindgren or in view of page 3, lines 1-27 referred to as APA by the Examiner. This rejection is respectfully traversed.

Commonly-assigned Lundin discloses a communication system which communicates position requests and information over a communication channel. In response to receiving a position request from a first Public Land Mobile Network (PLMN) over a first communications channel, a second PLMN transmits position information related to the roaming mobile station to the first PLMN, preferably over the same first communication channel.

Independent claims 1 and 5 recite a method and system for obtaining position of a mobile station. A location center receives a positioning request for the mobile station, and in response thereto, identifies a home network for the mobile station. Based on the identified home network and roaming capability information for the home network, the location center dynamically selects from among at least two positioning protocols including an SS7-based positioning protocol and an IP-based positioning protocol one of the two positioning protocols for

communication with the home network of location information associated with the position of the mobile station. The location center identifies the current visiting network of the mobile station, and based on the identified current network and roaming capability information for the visiting network, the location center again dynamically selects from among the at least two positioning protocols one of the two positioning protocols for communication with the current visiting network of location information associated with the position of the mobile station. A positioning request is sent to the current visiting network using the dynamically selected positioning protocol, and in response, positioning information about the mobile station is received from the current visiting network using the dynamically selected positioning protocol.

The Examiner alleges that Lundin “teaches the use of a plurality of protocols, such as a positioning roaming protocol (PRP), IP based protocols, frame relay, ATM protocols etc, for supporting internetworking roaming and offering positioning services; and further teaches a mobile positioning center (MPC) tailors position information based on an underlying protocol according to a particular system or network requirement” making reference to [0023] and [0028-29]. Applicants respectfully disagree with the Examiner’s allegation.

The Examiner seems to ignore the fact that paragraphs [0023] and [0028-0029] disclose only a single positioning protocol, i.e., the positioning roaming protocol (PRP), supporting inter-networking roaming and offers positioning services. Paragraph [0023] discloses that “[t]he present invention uses a positioning roaming protocol (PRP) for supporting inter-networking roaming.” Again, only one positioning protocol is described and used in Lundin. The other different level 2/3 protocols in Lundin, which Lundin identifies as “underlying routing and transportation protocols” in [0023], may be used to carry the PRP information. But Lundin does not describe these underlying protocols as positioning protocols themselves. The transport

protocols are “dumb” with respect to the position information associated with the mobile station. They just carry frames of data regardless of their content. In [0023], Lundin states “the PRP does not depend on underlying routing and transportation protocols,” which makes clear that only one positioning protocol is envisioned by Lundin.

Regarding these underlying transport protocols, which are not described by as positioning protocols, there is a single static decision made by the operator regarding which underlying protocol should be used to ensure an acceptable amount of delay. Hence, the underlying transport protocol is not “dynamically selected” based on roaming capability information.

Although the Examiner disagrees with this, the Examiner is requested to review [0023] again repeated here and annotated for convenience and emphasis: “The present invention uses a positioning roaming protocol (PRP) for supporting inter-networking roaming in a system that offers positioning services. In an exemplary embodiment, the **PRP may be embedded on a level 2/3 protocol** of an open information (OSI) network having a signalling protocol with defined real-time performance. The PRP is used on a channel for transmitting roaming data to a mobile station. One channel that may be used is a GSM defined signalling channel that is used for communicating signalling information related to a roaming mobile station. In this way, **the PRP does not depend on underlying routing and transportation protocols**, for example, the GSM SCCP, for supporting the communication of position request and information. Preferably, **the PRP can use** already existing layer protocols for this purpose, such as MTP/SCCP, IP based, frame relay, X25, or ATM protocols. It should be noted that the underlying protocol of the PRP is selected such that the amount of delay associated with communicating the position request and information is within an acceptable range.” Again, there is only one positioning protocol—PRP.

The IP based and other listed protocols identified by the Examiner are routing and transportation protocols that may carry the PRP and are not positioning protocols.

The Examiner admits that Lundin fails to teach selecting among at least two positioning protocols based on the identified current network, but relies on Lindgren or APA for this missing feature. Lindgren teaches converting generic signals being carried by the SS7 protocol to the TCP/IP protocol and vice versa. This is accomplished by replacing the MTP and SSCP layers of an SS7 protocol signal with a TCP/IP layer for transmissions from the SS7 network to the TCP/IP network, and by replacing a TCP/IP layer with MTP and SSCP layers for transmissions from the TCP/IP network to the SS7 network. But translating signals from one protocol to another is not the same as dynamically selecting different protocols—let alone selecting two positioning protocols which is not described in Lundin—based on the home and current visiting network and roaming capability information for each network.

Regarding APA and the Examiner's assertions regarding the text on page 3, lines 1-22, the Examiner is requested to quote the specific language that teaches the prior art GMLC selecting between SS7 and IP protocols for communicating positioning data with a specific PLMN as asserted by the Examiner. In Applicant's view, there is no such teaching. Lines 1-13 describe one approach that just uses and requires different networks to use SS7. Lines 14-22 describe another different approach that just uses and requires different networks to use IP. There is selection being performed. The assumption and requirement in both approaches is that all the PLMNs involved when positioning a mobile terminal support the same positioning roaming protocol.

In addition, independent claims 1 and 5 now specify that two positioning protocols are dynamically selected in the process of obtaining the position of a roaming mobile station. None of the references applied teaches this feature.


Nor is the rationale advanced by the Examiner reasonable since it (1) mischaracterizes what Lindgren and the alleged APA disclose and (2) simply parrots back the advantage described in the instant application. Still further, although the Examiner asserts that it would be obvious to modify Lundin "in order to tailor position information based on an underlying protocol according to a particular system or network requirement," that does not make sense in Lundin's system which only uses one positioning protocol (PRP).

The application is in condition for allowance. An early notice to that affect is earnestly solicited.

Respectfully submitted,

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